

particular item, any specific procedure to be followed, or the resolution of any particular issue except that the parties agree that, taken as a whole, the Stipulation and Agreement represents a reasonable resolution of the issues which were or could have been raised in this proceeding.

Non-Severability. The provisions of the conditional Certificate for Dorchester Unit No. 1 recommended for Commission adoption herein are not severable. They shall become effective only upon Commission issuance of an order granting the conditional Certificate for Dorchester Unit No. 1 described herein without modification or further condition. To the extent such conditional Certificate is modified, further conditioned, or rejected by the Commission and the parties do not agree to such modification or further condition, the proceedings in this case shall continue without prejudice to the rights of any party.

12/9/94

\_\_\_\_\_  
Date

*Peter F. Clark*

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Peter F. Clark  
Assistant General Counsel  
Delmarva Power & Light Company

12/22/94

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Date

*Allen M. Freifeld*

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Allen M. Freifeld  
Chief Staff Counsel  
Maryland Public Service Commission

12/22/94

\_\_\_\_\_  
Date

*Paul S. Buckley*

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Paul S. Buckley  
Assistant People's Counsel  
Office of People's Counsel

12/17/94

Date

*M. Brent Hare*

M. Brent Hare  
Counsel for the Maryland  
Department of Natural Resources

12/17/94

Date

*Ann Powers*

Ann Powers  
Vice President and General  
Counsel  
Chesapeake Bay Foundation, Inc.



STATE OF MARYLAND

November 22, 1994

Mr. Frank O. Heintz, Chairman  
Public Service Commission  
6 St. Paul Centre  
Baltimore, Md 21202-6806

RE: PSC Case 8489: Delmarva Power's Phase II Application for  
a Certificate of Public Convenience and Necessity for its  
Proposed Dorchester Power Plant, to be located in  
Dorchester County, MD

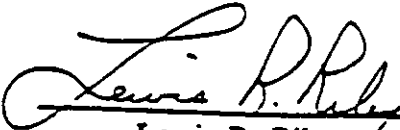
Dear Chairman Heintz:

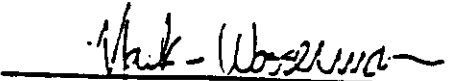
In accordance with Section 54B of Article 78 of the Annotated Code of Maryland, recommendations in Public Service Commission Case Number 8489, Phase II are hereby submitted on behalf of the Departments of Natural Resources, Environment, Agriculture, Transportation, Economic and Employment Development, the Office of Planning, and the Energy Administration. These recommendations relate to the application for a Certificate of Public Convenience and Necessity for Delmarva Power to locate and construct a 300 MW pulverized coal plant in Dorchester County, Maryland.


Delmarva Power's application was heard in two phases. Phase I encompassed the review of the need for the plant, technological alternatives, economics and alternative siting. Phase II included the review of all environmental issues. The attached recommendations are for Phase II and constitute a negotiated settlement among all parties in the case. The conditions relating to air pollution control and air quality, however, are still subject to review by the Environmental Protection Agency and may be revised pending its comments.

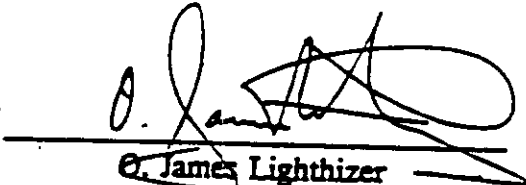
Based on our review of the application and supplemental information provided by the Applicant to date, the State Agencies have concluded that the plant can be constructed and operated in accordance with all applicable environmental regulations, provided the certificate incorporates the attached recommendations. The State Agencies, therefore, recommend that a Certificate of Public Convenience and Necessity, subject to the attached conditions, be granted.

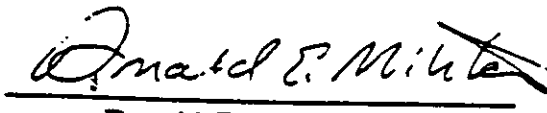
Sincerely,


  
Lewis R. Riley  
Department of Agriculture

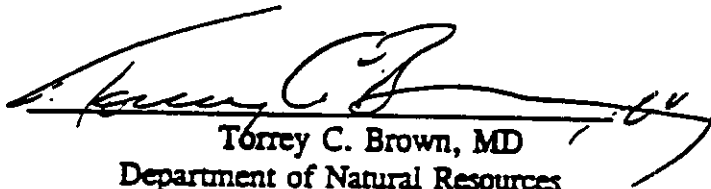
  
Mark L. Wasserman  
Department of Economic and  
Employment Development

  
Ronald M. Kreitner  
Office of Planning

  
O. James Lighthizer  
Department of Transportation

  
Donald E. Milsten  
Maryland Energy Administration

  
David A.C. Carroll  
Department of the Environment

  
Torrey C. Brown, MD  
Department of Natural Resources

RECOMMENDED CONDITIONS

General

1. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN (certificate) for Delmarva Power's Dorchester power plant, Unit 1. The application consists of the original application received by the Maryland Public Service Commission (PSC) on 1 December 1993 including amendments dated 22 April 1994, 26 April 1994, and 13 June 1994, and supplemental information submitted to the PSC. Construction and operation of the facility shall be undertaken in accordance with the CPCN application and subsequent amendments. If there are any inconsistencies between the certificate conditions specified below and the application, the conditions in this certificate shall take precedence.
2. If any provision of this certificate shall be held invalid for any reason, the remaining provisions shall remain in full force and effect, and such invalid provision shall be considered severed and deleted from this certificate.
3. Construction and operation of the facility shall be undertaken in accordance with this certificate and shall comply with all applicable local, State, and Federal regulations, including but not limited to the following:
  - a. Air Pollution Control
    - (1) COMAR 26.11.01.10A requires continuous emissions monitoring for fuel burning equipment with a rated heat input capacity of 250 million British thermal units per hour (MMBtu/hr) or greater;
    - (2) COMAR 26.11.06.02C(3) prohibits, from any act of materials handling or construction, any visible emissions beyond the property line;
    - (3) COMAR 26.11.06.03D requires reasonable precautions to prevent any particulate matter from becoming airborne as a result of material being handled, transported, or stored;
    - (4) COMAR 26.11.06.08 and .09 generally prohibits the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created;

- (5) COMAR 26.11.06.14 codifies the requirements in 40 CFR 52.21 for Prevention of Significant Deterioration (PSD) sources;
  - (6) COMAR 26.11.09.05A limits visible emissions, other than water in an uncombined form, to no more than 20 percent opacity;
  - (7) COMAR 26.11.02.20C requires the Company to maintain records necessary to support the emission certification;
  - (8) COMAR 26.11.02.20D requires the Company to certify the actual emissions of the regulated pollutants from that source;
  - (9) COMAR 26.11.17.03 applies to major stationary sources of volatile organic compounds and nitrogen oxides and the requirement to obtain emission offsets;
  - (10) New Source Performance Standards (NSPS) for Electric Utility Steam Generating Units, 40 CFR 60 Subpart Da;
  - (11) NSPS for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subpart Dc; and
  - (12) Acid Rain provisions under 40 CFR 72, 73, 75, 76, 77, and 78.
- b. Surface and Ground Water Appropriations - COMAR 08.05.02 applies to the information that must be submitted as part of a surface or ground water appropriations request, as well as monitoring, registration, and renewal requirements.
  - c. Tidal Wetlands and Waters - COMAR 08.05.05 applies to all dredging, filling, or altering of tidal wetlands and waters, and to the construction, reconstruction, or repair of structures on tidal wetlands and waters.
  - d. Nontidal Wetlands - COMAR 08.05.04 applies to activities conducted in nontidal wetlands.
  - e. Fuel Oil Storage - COMAR 26.10.01 applies to the design, management, and operation of oil storage tanks and development of a Spill Prevention, Control and Countermeasures (SPCC) Plan (as defined by 40 CFR 112).
  - f. Water Quality and Water Pollution Control - COMAR 26.08.01 through COMAR 26.08.04 applies to discharges

to surface water and maintenance of surface water quality.

- g. Erosion and Sediment Control - COMAR 26.09.01 applies to the preparation, submittal, review, approval, and enforcement of erosion and sediment control plans.
- h. Noise - COMAR 26.02.03 applies to noise standards that must be met in residential, commercial, and industrial areas.
- i. Forest Conservation - Maryland's Forest Conservation regulations, COMAR 08.19.01 through 08.19.06, applies to the development of local forest conservation programs, and the preparation of forest conservation plans.
- j. Chesapeake Bay Critical Areas Program - COMAR 14.15.01 through 14.15.11 establishes the requirements for the Chesapeake Bay Critical Areas Plan developed by local jurisdictions such as Dorchester County. Delmarva Power must meet the requirements of Dorchester County's Chesapeake Bay Critical Areas Plan.

4. Representatives of appropriate agencies of the State of Maryland, and Dorchester County, shall be afforded access to Delmarva Power's property at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the certificate. Delmarva Power shall provide such assistance as may be necessary to effectively and safely conduct such inspections and evaluations by representatives of the State and County, that may include but need not be limited to the following:

- a. inspecting construction authorized under this certificate;
- b. sampling any materials stored or processed on site, or any waste, or discharge into the environment;
- c. inspecting any monitoring or recording equipment required by this certificate or applicable regulations;
- d. having access to or copying any records required to be kept by this certificate or applicable regulations;
- e. obtaining any photographic documentation and evidence;
- f. inspecting areas for primary and secondary impacts; and
- g. determining compliance with the conditions and regulations specified in the certificate.

## Air Quality

### Part A - Construction and Operation

5. The certificate constitutes the air quality permit for the proposed Dorchester Unit 1 Power Plant, including PSD and New Source Review approval. Air quality permits and approvals in accordance with COMAR 26.11.02.06 and 40 CFR Part 52.21(r)(2) expires if, as determined by the Maryland Department of the Environment (MDE), Air and Radiation Management Administration (ARMA):
  - a. Construction is not commenced within 18 months after the date of issuance;
  - b. Construction is substantially discontinued for a period of 18 months or more after it has commenced; or
  - c. Construction is not completed within a reasonable period of time after the date of issuance of the certificate.
6. All requirements pertaining to air quality which apply to Delmarva Power shall apply to all subsequent owners and/or operators of the facility. In the event of any change in control or ownership, Delmarva Power shall notify the succeeding owner/operator of the existence of the requirements pertaining to air quality by letter and shall send a copy of that letter to ARMA and the PSC.
7. Delmarva Power shall not commence operation of the generating station until emission reductions for NO<sub>x</sub> required under COMAR 26.11.17.03 have been secured and are enforceable. The emission reductions must be real, surplus, and quantifiable, and come from existing sources in the area of the proposed Dorchester Unit 1.
8. Prior to operation of Dorchester Unit 1, Delmarva Power shall erect a fence along the entire property boundary for the Dorchester power plant, as shown in Figure 3.2.0-1 from Delmarva Power's December 1993 Phase II-CPCN application.
9. The main boiler design heat input rate shall be a nominal 3,089 MMBtu/hr, higher heating value, pending equipment selection, manufacturer's margin and testing. This boiler shall use coal as the primary fuel, and use No. 2 fuel oil for start up and stabilization. The sulfur content by weight shall not exceed 2.8 percent for coal, maximum per rail or barge shipment from the source as measured in accordance with ASTM D2234, and 0.05 percent for No. 2 fuel oil, maximum per shipment in accordance with ASTM D4294.



10. The following air pollution control equipment shall be installed on the main boiler:
  - a. selective catalytic reduction (SCR) system to control emissions of nitrogen oxides;
  - b. dry flue gas desulfurization (FGD) system to control emissions of sulfur dioxide; and
  - c. fabric filters to control particulate matter emissions.
11. Emissions from the main boiler shall be limited to the levels specified in Table 1. Stack testing, as specified in Part B, shall be performed to demonstrate compliance with these limitations.

**TABLE 1 EMISSION LIMITATIONS AND ALLOWABLE ANNUAL EMISSIONS FOR THE MAIN BOILER**

POLLUTANT	EMISSION LIMITATION*	MAXIMUM ANNUAL EMISSIONS (TYP)
Sulfur Dioxide	0.31 lb/MMBtu per 24 hr average	4,167
Nitrogen Oxides (as NO <sub>x</sub> )	0.17 lb/MMBtu per 24 hr average	2,300
PM/PM <sub>10</sub>	0.018 lb/MMBtu per 1 hr average	244
Carbon Monoxide	0.11 lb/MMBtu per 1 hr average	1,488
VOC	0.0036 lb/MMBtu per 1 hr average	49
Sulfuric Acid Mist	0.005 lb/MMBtu per 1 hr average	64
Fluorides (total)	0.0007 lb/MMBtu per 1 hr average	9
Lead	21.2X10 <sup>-6</sup> lb/MMBtu per 1 hr average	0.3

\* 24-hr average designates a "block" average from midnight to midnight of the following day.

12. Delmarva Power shall construct the Unit 1 main boiler with a minimum stack height of 424 feet above grade and a maximum

inside diameter of 14 feet. The main boiler stack must meet good engineering practice height requirements as specified in 40 CFR 51.

13. The heat input rate for the auxiliary boiler shall not exceed 97 MMBtu/hr, higher heating value. This boiler shall burn No. 2 fuel oil with a sulfur content by weight of 0.05 percent or less per shipment. The hours of operation shall not exceed 200 hours per calendar year.
14. The fabric filters used to control fugitive dust emissions shall be designed to control particulate matter emissions at a level not to exceed 0.003 grains per actual cubic feet per minute.
15. Delmarva Power shall install control equipment consisting of wet suppressants, fabric filters, covers and enclosures to limit fugitive dust emissions from receipt, processing, storage and loadout of coal, lime, and ash as identified in the CPCN application. All plant roads (except within the coal combustion by-product disposal area) shall be paved to minimize truck traffic-generated dust emissions. These roads shall be cleaned by watering and sweeping practices on an as-needed basis to ensure that no visible emissions originating from the plant operations will emanate beyond the plant fence line.
16. Delmarva Power shall maintain on-site a written plan for the management and control of fugitive dust emissions from storage piles, vehicular traffic at the site and other sources. The plan must be submitted to ARMA prior to initial delivery of lime and coal to the site.
17. Delmarva Power shall maintain on-site a written preventative maintenance plan that includes maintenance procedures and schedules for the following equipment: material handling and storage equipment, emissions control equipment (including the SCR catalyst) and all continuous emission monitoring equipment. This plan must be submitted to ARMA at least 30 days prior to start up of the facility.

#### Part B - Stack Testing

18. Compliance stack testing shall be conducted within 180 days of initial start-up, or within 60 days of reaching maximum generating capacity, whichever comes first. At least 30 days prior to conducting any compliance stack test, Delmarva Power shall submit a test protocol to ARMA for review and approval, and to the Department of Natural Resources (DNR) Power Plant Research Program (PPRP) for review. Written approval from ARMA shall be received prior to testing. ARMA shall accept, or reject with reason, the test protocol within 20 days after receipt.

19. Compliance stack testing shall be conducted in accordance with ARMA Technical Memorandum (TM) 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January, 1991), as amended by Supplement 1 (1 July 1991), 40 CFR 51, 40 CFR 60, or subsequent test protocols approved by ARMA. Test ports, sampling platforms, and utilities for emission testing equipment shall be installed on the main boiler stack. Test ports shall be located in accordance with TM 91-01 (January, 1991), or subsequent or alternative measures approved by ARMA.
20. Testing shall be performed when operating at a minimum of 95 percent of the design heat input. The steam production rate shall be continuously monitored. If testing cannot be performed at the maximum design heat input rate, then the actual heat input shall become the allowable permitted heat input rate.
21. Delmarva Power may be required to conduct additional stack tests at any time as may be prescribed by ARMA. At a minimum, stack testing for particulate matter shall be performed annually to demonstrate compliance with the standard.

#### Part C - CEMS

22. Continuous emissions monitoring systems (CEMS) shall be installed, calibrated, maintained, and operated on the main boiler stack for monitoring the following: sulfur dioxide, nitrogen oxides, opacity, oxygen or carbon dioxide, and ammonia. Sulfur dioxide shall be measured upstream and downstream of the FGD system.
23. All CEMS shall be installed and operational prior to conducting compliance stack testing. Equipment specifications, calibrations, and operating procedures shall be submitted to ARMA for review and approval, and to PPRP for review, at least 30 days prior to installation.
24. The CEMS must meet all applicable Federal and State requirements including, but not limited to, Appendix B (Performance Specifications) and Appendix F (Quality Assurance Procedures) of 40 CFR 60, 40 CFR 75 (Title IV Acid Rain Program), and TM 90-01, "Continuous Emission Monitoring (CEM) Policies and Procedures".
25. Performance certification testing of the CEMS shall take place no later than 30 days after the completion of the compliance stack test. A test protocol shall be submitted to ARMA for review and approval, and to PPRP, at least 30 days prior to CEM certification. Written approval from ARMA shall be received prior to conducting the CEMS certification. ARMA shall approve, or reject with reason,

the test protocol within 20 days of submittal. QA/QC plans shall be submitted and implemented upon certification of the CEMS.

26. Delmarva Power shall ensure that valid CEMS data be obtained by all monitoring systems, with the exception of ammonia, with a minimum goal of 90 percent of the operating hours in each quarter. All valid CEMS data shall be used for compliance determination in accordance with enforcement policy found in TM 90-01.
27. Delmarva Power shall install and operate a data telemetry system that meets the requirements of TM 90-01. Data from the telemetry system shall be available to ARMA at all times, except for conditions of malfunction, maintenance, and testing.

*Part D - Recordkeeping and Reporting*

28. Delmarva Power shall furnish written notification of the anticipated project schedule to the PSC, ARMA, and PPRP as well as written notification of the following events:
  - a. the date construction commenced within 30 days after such date;
  - b. the anticipated start-up date not more than 60 nor less than 30 days prior to such date;
  - c. the actual start-up date within 15 days after such date; and
  - d. the anticipated date of compliance stack testing at least 30 days prior to such date.
29. Final results of each compliance stack test must be submitted to ARMA within 60 days of completion of the test. Analytical data shall be submitted to ARMA directly from the emission testing company.
30. ARMA shall be furnished with a report of the CEMS performance evaluation within 60 days of completion of any performance certification testing.
31. A quarterly summary report shall be submitted to ARMA no later than 30 days following each calendar quarter. The report shall be in a format approved by ARMA and shall include the following:
  - a. the hours of operation of the main boiler and auxiliary boiler;

- b. the 24 hour averages of sulfur dioxide and nitrogen oxides emissions, in lb/MMBtu, from the main boiler, for every day of the quarter;
- c. the time periods, cause, and magnitude of all emissions that exceed the applicable emission limitation;
- d. the boiler downtime including the time and date of the beginning and ending of each downtime period and whether the boiler downtime was planned or unplanned;
- e. the time periods and cause of all CEMS downtime including records of any repairs, adjustments, or maintenance that may affect the validity of emission data;
- f. quarterly total occurrences of excess emissions; and
- g. quarterly quality assurance activities:

32. Delmarva Power shall certify the actual emissions of regulated pollutants from that facility.

- a. Certification shall be on a form obtained from ARMA and shall be submitted to ARMA no later than April 1 of the year following the year for which certification is required.
- b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The certifying individual shall be:
  - (1) familiar with each source for which the certification form is submitted; and
  - (2) responsible for the accuracy of the emission information.

33. All records and logs shall be maintained at the facility for at least two years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of ARMA.

34. All air quality notifications and reports required by this certificate shall be submitted to:

Administrator, Enforcement Program  
 Air and Radiation Management Administration  
 2500 Broening Highway  
 Baltimore, Maryland 21224

35. All notifications and reports required by 40 CFR 60, Subparts A, Da, and Dc shall be submitted to:

Regional Administrator  
US Environmental Protection Agency  
Region III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107

*Surface Water and Aquatic Biota*

36. Dredging in waters of the Nanticoke River is prohibited from March 1 through June 15 to protect early life stages of spawning fish in accordance with COMAR 08.05.05. Delmarva Power shall also limit dredging to calm periods to reduce the spread of turbidity.
37. Delmarva Power shall implement the following measures to mitigate potential impacts to the aquatic resources of the Nanticoke River:
- a. Participate in a task sharing effort with DNR in a culture and stocking program for selected fish species in the Nanticoke River which has the following annual production goals:
    - (1) striped bass - 100,000 phase I or 40,000 phase II juveniles; and
    - (2) American shad - 120,000 juveniles; or, another species with similar production targets as determined in consultation with DNR.
  - b. As part of a task sharing effort with DNR, identify and evaluate stream blockages of anadromous fish movement in the Nanticoke River watershed and develop and implement a program for blockage removal or fish passage.
  - c. As part of a task sharing effort with DNR, identify habitat restoration or protection needs in the Nanticoke River watershed and develop and implement enhancement measures.
  - d. Delmarva Power shall prepare and submit to DNR for approval, plans, including a budget, for the mitigation measures presented in parts (a), (b), and (c) of this condition no later than 12 months following commencement of construction of Dorchester Unit 1.
- Delmarva Power shall implement the mitigation measures presented in parts (a), (b), and (c) of this condition following DNR's approval.

38. Prior to the commencement of construction of the Dorchester facility, Delmarva Power shall finalize the Erosion and Sediment Control Plan and the Stormwater Management Plan for the facility and associated linear facilities. Delmarva Power shall demonstrate that there will be a net improvement in water quality. The approved Erosion and Sediment Control Plan and Stormwater Management Plan shall be maintained on site and adhered to during all phases of construction. These plans shall be submitted to PPRP for review, and to the Dorchester County Highway Department and Dorchester County Soil Conservation Service for review and approval, and shall include at least the following:

- a. Storm drain systems within tidal wetlands shall be designed to manage the rate of runoff and achieve, at a minimum, a 10 % reduction in runoff pollutant loadings within those areas.
- b. The storm drain system shall comply with state or local design standards, as appropriate.
- c. Delmarva Power shall submit a preconstruction depth survey of tidal wetlands in the project vicinity to DNR, Water Resources Administration (WRA) for approval, prior to the start of construction.
- d. Delmarva Power shall submit a post-construction depth survey to WRA for review and verification, after construction has begun.

#### ***Surface and Ground Water Appropriation***

39. This CPCN authorizes Delmarva Power to appropriate and use waters of the state for operation of Delmarva Power's Dorchester Unit 1. The surface water appropriation will be tracked under DNR WRA permit number D094S004/1. The ground water appropriations will be tracked under DNR WRA permit number D093G032/1 during operation, and D094G003/1 during construction dewatering. In addition to complying with the requirements specified in COMAR 08.05.02, and the conditions issued with permit numbers D094S004/1, D093G032/1, and D094G003/1, Delmarva Power shall do the following:

- a. *Initiation of Withdrawal.* Delmarva Power shall notify DNR WRA, PPRP, and the US Army COE by certified mail when withdrawal for the uses specified by permit numbers D094S004/1, D093G032/1, and D094G003/1 has been initiated. The water appropriations for surface water, construction dewatering, and plant operation shall expire if water withdrawal is not commenced within two years after the effective date. The time limit may be extended for good cause, at the discretion of DNR WRA,

upon written request to WRA prior to the expiration of the two-year period.

- b. **Surface Water Allocation.** During cooling tower operations at three cycles of concentration, water withdrawal from the Nanticoke River is limited to a daily average of 4,896,000 gallons on a yearly basis and a daily average of 6,048,000 gallons for the month of maximum use. When Nanticoke River surface water quality conditions allow six cycles of concentration, particularly during the spawning season from March 1 to June 15, maximum daily withdrawal will be limited to 4,800,000 gallons.

At least six months prior to the anticipated start of plant operation, Delmarva Power shall submit to DNR WRA and PPRP for review, an explanation for determining when Nanticoke River water quality would allow operation of Dorchester Unit 1 at six cycles of concentration. This explanation shall specify the water quality parameters that will be monitored to determine appropriate cycles of concentration, and why these parameters were selected. At a minimum, the explanation shall:

- (1) identify the surface water quality parameters of the Nanticoke River that influence cooling tower operation at six cycles of concentration, how and why these parameters influence cooling tower operation, and the seasonal patterns of these conditions; and
- (2) identify the Nanticoke River water quality parameters that will be monitored during operation of Dorchester Unit 1, and the frequency of this monitoring, such that Dorchester Unit 1 is operated at six cycles of concentration when surface water quality permits.

- c. **Surface Water Source/Location.** The water shall be withdrawn from the Nanticoke River from an intake pipeline that will run from the Dorchester site to the combined intake on the Nanticoke River at Delmarva Power's Vienna Unit 8 Power Plant located in Dorchester County.
- d. **Surface Water Use.** The water is to be used for cooling tower makeup in support of Delmarva Power's Dorchester Unit 1.
- e. **Ground Water Allocation.** The water withdrawal for construction dewatering is limited to a daily average of 2,448,000 gallons on a yearly basis and daily



average withdrawal of 5,184,000 gallons for the month of maximum use. The yearly average reflects 1,700 gpm, and the month of maximum use reflects 3,600 gpm. During the month of initial start-up, the average daily withdrawal shall be limited to 720,000 gallons. Following the month of initial start-up, water withdrawal shall be limited to a daily average of 374,400 gallons on a yearly basis and a daily average of 585,500 gallons for the month of maximum use.

- f. **Ground Water Use.** During operation of Dorchester Unit 1, ground water shall be used for the following:

- (1) demineralizer water for boiler makeup;
- (2) filtered water including lime slaker for the spray dryer absorber, ash dewatering makeup, pump and valve packing leakage, and closed cycle cooling system makeup;
- (3) plant start-up/shutdown including process system flushes, feedwater heater, deaerator and condenser vents, steam traps and drains.

Ground water is not to be used directly for cooling tower makeup, which will be provided under surface water appropriations from the Nanticoke River.

- g. **Ground Water Source.** During construction dewatering, ground water shall be withdrawn from excavations and/or dewatering wells completed in the sediments overlying and within the Columbia Aquifer. The water in support of Dorchester Unit 1 operation shall be withdrawn from two production wells completed in the Columbia Aquifer.

40. Delmarva Power shall conduct the following monitoring activities in support of the ground water appropriation for construction dewatering:

- a. **Wetland Monitoring Plan.** Delmarva Power shall install a minimum of three and a maximum of five nests, as determined by PPRP and DNR/WRA, consisting of a shallow and deep piezometer in wetlands areas immediately adjacent to the power block where construction dewatering activities will occur to monitor construction dewatering and plant operation. These areas will coincide with wetlands that will not be physically disturbed by Delmarva Power during construction or operation. The shallow piezometers shall be constructed such that the screens are open to the first water bearing zone encountered below the ground surface and in hydraulic communication to the wetlands. The deep piezometers will be constructed

such that the screens are located in the coarser sediments of the Columbia Aquifer. Each piezometer shall be surveyed by a Maryland-licensed surveyor for horizontal and vertical control. The plan describing the wetland monitoring program, including a map depicting the proposed locations for the piezometer nests, shall be submitted to DNR WRA for review and approval, and to PPRP and the US Army COE, 60 days prior to installation of the piezometers.

- b. *Monitoring and Reporting Water Levels Prior to Dewatering Activities.* Delmarva Power shall maintain in a usable condition, at a minimum, three monitoring wells of similar construction and location as previous monitoring wells MW 13D, MW 14D, and MW 15D, as approved by DNR WRA and PPRP, and the wetland piezometers installed in accordance with Condition No. 40a. At least two years prior to initiation of construction dewatering, Delmarva Power shall measure and record water levels in the monitoring wells and the wetland piezometers on a weekly basis February through October, and on a monthly basis for the remainder of the year. Delmarva Power shall submit water level measurements and elevations, to DNR WRA and the US Army COE, with a location map showing the monitoring points, on a monthly basis. The reports shall also specify the anticipated commencement for dewatering activities.
- c. *Monitoring and Reporting Water Levels During Construction Dewatering.* During the time period from February through October, Delmarva Power shall measure and record water levels in the three monitoring wells specified in Condition 40b and the wetland piezometers specified in Condition 40a on a weekly basis, and on a monthly basis for the remainder of the year. Delmarva Power shall submit to DNR WRA and the US Army COE pumping and water level measuring records, including a location map of monitoring points and areas being dewatered, on a monthly basis (no later than the last day of the month). The reports should also specify the construction progress and identify the remaining construction activities that require dewatering.
- d. *Monitoring and Reporting Water Levels From the End of Construction Dewatering to the Commencement of Plant Operation.* During this period of plant construction, Delmarva Power shall measure and record water levels in the three monitoring wells specified in condition 40b on a quarterly basis, and in the wetland piezometers specified in condition 40a on a monthly basis. Delmarva Power shall submit to DNR WRA and the US Army COE water level measuring records, including location

map of monitoring points, on a quarterly basis (no later than the last day of the month). First quarter reporting will be by April 30; second quarter reporting will be by July 31; third quarter will be by October 31; and fourth quarter will be by January 31. The reports should also specify the progress towards commencement of plant operations.

41. If DNR WRA determines that water users are unreasonably impacted by the water appropriation authorized under the CPCN, DNR WRA may require Delmarva Power to reduce or cease water withdrawals or take other corrective measures, including but not limited to well, pump, or water supply replacement. An individual domestic water supply well which is no longer capable of yielding water because of declining water levels caused by construction and operation of Dorchester Unit 1 shall be considered adequately replaced by Delmarva Power when Delmarva Power provides a new or retrofitted well or pump meeting the minimum yield requirements established in COMAR 26.04.04.07, or other alternative water supply, to the affected property owner. A municipal, industrial, commercial, institutional or farming water supply which is no longer capable of yielding water because of declining water levels caused by construction or operation of Dorchester Unit 1, shall be considered adequately replaced when Delmarva Power provides a new or retrofitted well, pump, or other alternative water supply to the affected property owner capable of yielding water equal to the volume used or needed by the property owner prior to the supply disruption.
42. Delmarva Power shall conduct the following monitoring activities in support of the ground water appropriation for operation of Dorchester Unit 1:
  - a. *Monitoring Water Levels.* Delmarva Power shall maintain, at a minimum, the three monitoring wells installed to replace MW 13D, 14D, and 15D, as specified in Condition 40b, all of which are to be completed in the Columbia Aquifer, and the wetland piezometer nests described under Condition 40a. Delmarva Power shall measure and record on a monthly basis water levels in the monitoring wells and the wetland piezometers.
  - b. *Capability to Obtain Water Level Measurements.* For the pumping wells, pumping equipment shall be installed so that water levels can be measured during pumping and non-pumping periods without dismantling any equipment. An opening for tape measurements of water levels shall have a minimum inside diameter of 0.5 inches and be sealed by a removable cap or plug.

## Ground Water Quality Monitoring

43. Delmarva Power shall conduct the ground water monitoring activities listed below to minimize potential adverse impacts to site-wide ground water quality due to the operation of the power plant.
- a. Prior to plant construction, Delmarva Power shall submit to MDE for review, and to PPRP for review and approval, the information specified in Condition 48 with respect to the combustion by-product disposal landfill. This information shall include a ground water monitoring system to define hydrogeological conditions on the site in accordance with COMAR 26.04.07.20A. The monitoring program shall consist of, at a minimum, the following elements:
- (1) Installation of at least one shallow well upgradient of the disposal area and four shallow wells downgradient, with construction and design in accordance with COMAR 26.04.04;
  - (2) Monthly sampling and analysis of total dissolved solids (TDS), pH, specific conductivity, major cations and anions, and trace heavy metals to ensure detection of liner failures;
  - (3) Implementation of the monitoring program two years prior to operation of the landfill, with sampling occurring on a quarterly basis, in order to provide baseline ground water quality conditions; and
  - (4) Reporting of the results of the ground water monitoring program to MDE, PPRP, and the US Army COE on a semi-annual basis. The reports shall include a tabulated summary of cumulative ground water quality data, graphical presentations of ground water quality data, a map showing the sampling locations and a ground water flow contour map, with ground water elevations measured relative to mean sea level.

If ground water monitoring identifies ground water quality impacts, as determined through a comparison of ground water concentration data for the constituents listed in Condition 43 (a)(2) with the baseline data, Delmarva Power shall collect confirmation samples within one week of such determination. If the additional samples confirm ground water quality impacts, Delmarva Power shall notify PPRP, DNR WRA, MDE, and the US Army COE in writing of the findings within one

week. Delmarva Power shall immediately institute mitigation measures to protect ground water quality developed in accordance with MDE Regulations.

- b. Delmarva Power shall institute a ground water monitoring program in and around the fuel oil storage area, and the active and inactive coal piles and the stormwater retention basin used to collect coal pile runoff. The purpose of this monitoring is to ensure early detection of contaminants that could be accidentally released into the ground water and impact ground water quality. Delmarva Power shall submit a copy of the proposed ground water monitoring program to DNR WRA and MDE for approval, and PPRP for review, at least 16 months prior to plant construction. The monitoring program shall consist, at a minimum, of the following elements:

- (1) For each area (oil storage, and coal piles and stormwater retention pond), at least one shallow upgradient and three shallow downgradient wells shall be installed in accordance with COMAR 26.04.04 regulations for well design and construction;
- (2) Quarterly sampling and analysis for benzene, toluene, ethyl benzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH) and naphthalene at the fuel storage area and total dissolved solids (TDS), pH, specific conductivity, major cations and anions, and trace heavy metals for the coal pile storage areas or other constituents as designated by PPRP and MDE;
- (3) Implementation of the monitoring program two years prior to operation of the plant in order to provide baseline ground water quality conditions; and
- (4) Reporting of the results of the ground water monitoring program to DNR WRA, MDE, PPRP, and the US Army COE on a semi-annual basis. The reports shall include a tabulated summary of cumulative ground water quality data, graphical presentations of ground water quality data, a map showing the sampling locations and a ground water flow contour map, with ground water elevations measured relative to mean sea level.

If ground water monitoring identifies ground water quality impacts, as determined through a comparison of ground water quality data for the constituents listed

in Condition 43(b)(2), with the baseline data, Delmarva Power shall collect confirmation samples within one week of such determination. If the additional samples confirm ground water quality impacts, Delmarva Power shall notify DNR WRA, PPRP, MDE, and the U S Army COE in writing of the findings within one week. Delmarva Power shall immediately institute mitigation measures to protect ground water quality that have been developed in coordination with PPRP and MDE.

#### **Fuel Delivery and Storage**

44. Fuel oil tank management, release detection, and reporting shall be conducted in accordance with COMAR 26.10.01 Oil Pollution and Tank Management Regulations. In addition, the transfer of fuel oil shall occur in a paved unloading station that will be equipped with sumps for the collection of oil leaks and automatic alarms and shutoff valves to monitor and control storage fuel levels. Delmarva Power shall submit an application for an Oil Operations Permit to MDE for review and approval, during the detailed design phase. A Spill Prevention, Controls and Countermeasures (SPCC) plan shall be submitted to EPA prior to commencement of operation.
45. At least six months prior to initiating construction of Dorchester Unit 1, Delmarva Power shall prepare a detailed design submittal for the liner and leachate collection system for the coal pile storage facility, and submit the design to PPRP for review and comment. The design submittal shall include sufficient drawings and technical specifications to fully describe the materials and procedures associated with construction and operation of the liner and leachate collection system. All calculations documenting the proposed design shall be provided to support the design specifications, including but not limited to, settlement, potential for puncture of the liner, and chemical compatibility. The design submittal shall also include a Construction Quality Assurance Plan which documents the steps that will be carried out to provide independent documentation of the completed liner system construction. PPRP will respond within thirty working days to these submittals.
46. No more than one year prior to initiating plant construction, Delmarva Power shall conduct an economic and environmental evaluation of transporting coal to Dorchester Unit 1 by rail and barge. Before conducting the evaluation, Delmarva Power shall submit a study plan to PSC staff, Maryland Department of Economic and Employment Development (DEED), Maryland Department of Transportation (MDOT), Maryland Office of Planning (MOP), and PPRP for approval. This evaluation shall include, at a minimum, an assessment

of the relative advantages and disadvantages of the alternative transport systems, an assessment of alternative transshipment options with respect to barge transport, including a dedicated truck haul road within a portion of Delmarva Power's unused rail right-of-way between Hurlock and Vienna, to transport the coal from the barge unloading facility to the Dorchester site. In addition, the evaluation shall include an assessment of safety considerations if trucks transporting coal between the barge unloading facility and the Dorchester site will be using public roads, namely SR 331 and Maiden Branch Road. Delmarva Power shall also incorporate the possibility of a second unit at the Dorchester site in this evaluation.

47. If coal is transported from the proposed barge unloading facility to the power plant, Delmarva Power shall reduce dust emissions from coal trucks by covering trailers during the round trip between the two sites.

#### *Combustion By-Product Landfill*

48. The proposed on-site landfill designated as Disposal Area 1 and described in Section 3.7.1.4 of Delmarva Power's 1 December 1993 Phase II CPCN application shall accept only combustion by-products (boiler bottom ash and solids collected in the fabric filter devices) produced by Dorchester Unit 1. At least nine months prior to beginning construction, Delmarva Power shall submit to MDE for review, and to PPRP for review and approval, the detailed design and operating procedures for the on-site landfill. This submittal must include sufficient information to demonstrate that Delmarva Power is utilizing good engineering practices in designing and operating the landfill, in compliance with Natural Resources Article 7-464 of the Annotated Code of Maryland (the "Pozzolan Act").

The detailed design submittal to PPRP must include the following:

- a. an updated stability analysis and settlement calculations based on actual tested by-product parameters, and a plan to obtain field data on placed density and strength parameters during landfilling;
- b. a topographic map which is an accurate depiction of the site at the time the detailed design is submitted, prepared to a scale not smaller than 1 inch equals 200 feet, which depicts the property boundaries, on-site buildings and structures, and obvious surficial features, such as springs and seeps, intermittent and perennial streams, and wetlands;

- c. a map or drawing depicting the final grades of the site after completion of landfilling activities;
- d. a discussion of the projected future use of the landfilled area;
- e. the volume and type of available cover material for the combustion by-products;
- f. means of controlling access to the landfill;
- g. proposed operating procedures, including:
  - (1) hours of operation;
  - (2) necessary equipment to handle combustion by-products at the landfill;
  - (3) contingency plans for emergencies; and
  - (4) procedures to be followed upon delivery of combustion by-products;
- h. methods of controlling runoff and run-on to the landfill;
- i. proposed methods of covering and stabilizing completed areas;
- j. a description of the liner and leachate collection system, including site-specific engineering drawings and details; and
- k. a Construction Quality Assurance Plan which documents the steps that will be carried out to provide independent documentation of the completed landfill construction.

No later than one year prior to the projected date on which the on-site landfill will reach capacity; Delmarva Power shall submit a closure plan to PPRP for review and approval.

- 49. Delmarva Power shall incorporate by-products from the Dorchester Power Plant into its established ash reutilization program, recognizing the fact that the characteristics of the FGD by-products from Dorchester Unit 1 will differ from the fly ash currently marketed through the existing reutilization program. Delmarva Power shall work with Maryland DNR and other State agencies as appropriate to promote the investigation of potential uses, and to develop practical guidelines and policies governing the utilization of the by-product.



50. Delmarva Power shall not develop the area designated in Section 3.7.1.4 of Delmarva Power's 1 December 1993 Phase II CPCN application as cell 1 of Solid By-product Disposal Area 1.
- a. Delmarva Power shall provide PPRP with calculations demonstrating the feasibility and benefits of compacting the by-products to achieve a higher placed density in the landfill, as a potential means of further reducing wetland impacts. These calculations shall be submitted to PPRP along with the detailed design submittal, no later than nine months prior to beginning construction.
  - b. Annually, beginning no later than 60 days following the first 12 months of operation of the on-site landfill, Delmarva Power shall report to PPRP the total quantity of by-products disposed on site during the preceding 12-month period. This report must also indicate the percentage of the total capacity of the landfill that has been used, the projected date at which the landfill will reach capacity, and the premises upon which this determination is made.

#### Noise

51. Within six months after selecting the vendors for Dorchester Unit 1 major equipment, Delmarva Power shall demonstrate that the vendors' noise emission guarantees are consistent with the noise emissions assumptions used in projecting plant operational noise impacts submitted in Delmarva Power's 1993 Phase II CPCN application. Delmarva Power shall submit this demonstration to MDE ARMA and PPRP.
52. Delmarva Power shall conduct a study of ambient noise levels in the vicinity of Dorchester Unit 1, and in the vicinity of the coal barge unloading facility and intake/discharge structure on the Nanticoke River, to ensure compliance with the noise levels specified in COMAR 26.02.03. The study shall be conducted when each facility is operating at full capacity. The scope of work for the study shall be provided to MDE ARMA for review and approval, and to PPRP, within six months after Dorchester Unit 1 has started operation. The results of the noise evaluation of the power plant shall be submitted to MDE ARMA and PPRP no later than six months after receiving approval on the scope of work from MDE ARMA. The results of the noise evaluation for the barge unloading facility will be submitted to MDE ARMA and PPRP no later than six months after taking the first barge delivery of coal, following approval of the scope of work from MDE ARMA.